SIEMENS

Display

TD

Replacement of Parts

Display

18" B/W TFT Monitor (MVGD 1318 P)

Applicable to part no. 80 79 530

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Safety instructions

Assuming a complete replacement, no contact points for line power, etc. are present.

NOTE

ARTD-002.732.17.. (Safety-technical Regulations for Installation and Repair) must be observed.

⚠WARNING

Certain components inside the units are under high voltage!

If there is contact with these components, it can cause damage, serious bodily injury or death.

➪ **Do not open the monitor housing; this is not necessary in a service situation.**

⚠WARNING

A damaged power cable can lead to fire or electric shock!

If these components are operated with a damaged power cable, it can cause damage, serious bodily injury or death.

➪ **Use only power cables that are in good condition! When unplugging the power connector, hold the power cable only by the connector.**

⚠WARNING

If objects are inserted into the housing, this can cause electrical shock.

This can cause damage to the unit, to other damage, serious bodily injury or death.

➪ **Do not insert objects into the housing!**

⚠WARNING

When handling connection cables, no contact with the patient may be made.

This can cause damage, serious bodily injury or death of the patient.

➪ **Do not connect the unit in the patient area!**

Monitor Remarks

- A laptop is not required for adjustment. Adjustments can be made using the OSD (on screen display), which is operated via a control wheel on the rear panel.
- Power switch:
  - The TFT monitor has no power switch.
    However, stand-by mode can be activated from the OSD menu.

LCD Monitor 80 79 530

The MVGD1318 model is a high-resolution 18.1" (46cm) B/W TFT Monitor.

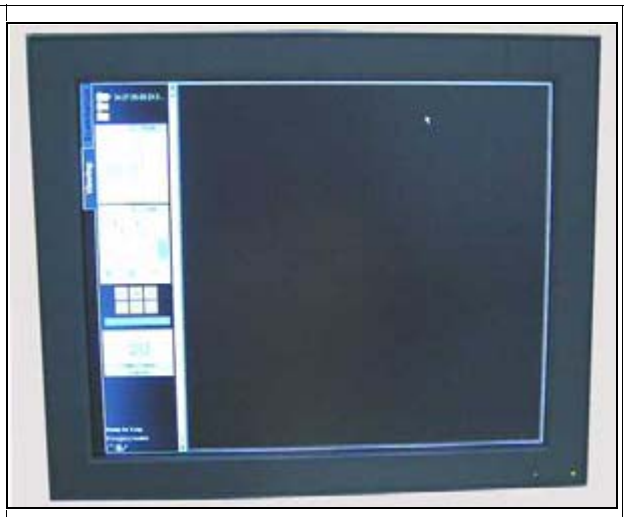

Fig. 1: 18" B/W Monitor MVGD 1318 P

Technical Data

Power Supply	Voltage range => 90 - 264V; 45 - 65Hz. Power consumption => max. 64W
Inputs	D-Sub 15pol (analog) / BNC => Video / CS/HS / VS / DVI I
Resolution	max. 1280 x 1024 (format filling)
Background Brightness	700 cd/m^2 max. Status when shipped: 400 cd/m^2 for white, 0.9 - 1 cd/m^2 for black.
Contrast Ratio	550 typical.

Environment	**Transport and Storage (in original packaging):** Ambient temperature - 20 to + 60°C Relative humidity 5% to 95%, no condensation. **Operation:** Ambient temperature + 15°C to + 35°C Relative humidity 8% to 80%, no condensation.
Installation	Heat dissipation is achieved by “natural" convection; a fan is not installed. The free setup height as well as the side and rear distance must be at least 100 mm.
Weight	8.1 kg (without the base)

Pixel Defects:

Tab. 1 Pixel Defects

Pixel Defects (dot = subpixel)	**Maximum Number**
white	3
black	5
white + black max. total	6
2 attached white	1

Repair / Troubleshooting

NOTE

- **In a malfunction situation, the TFT monitor is only completely replaced.**

  "Only" the TFT monitor is available as a replacement part, no boards, etc.

  For the spare part number, see the SPC (Spare Parts Catalogue).
- **Any defective TFT monitor must be returned with an exact description of the malfunction. Without a description of the malfunction, it is virtually impossible to find sporadic and/or temperature-related effects or even system-related causes.**
- **For more information on adapting to the different systems see (System-related Adjustments / p. 15).**

Test Equipment and Aids

- All required settings, see (System-related Adjustments / p. 15), must be performed using the touch buttons on the front of the unit.
- SMfit luminous density meter. See CB - DOC TD00-000.801.01... (Spare Parts Catalogue).
- In connection with Siremobil Compact / L, Siremobil ISO-C and Powermobil

  the **HTML test images VA00A" Part No. 75 58 567 J1052** disk is required (SMPTE test pattern).

General Remark Regarding Use of the OSD Menu

OSD Selection and basic operation

TFT Monitor, part no. 80 79 530

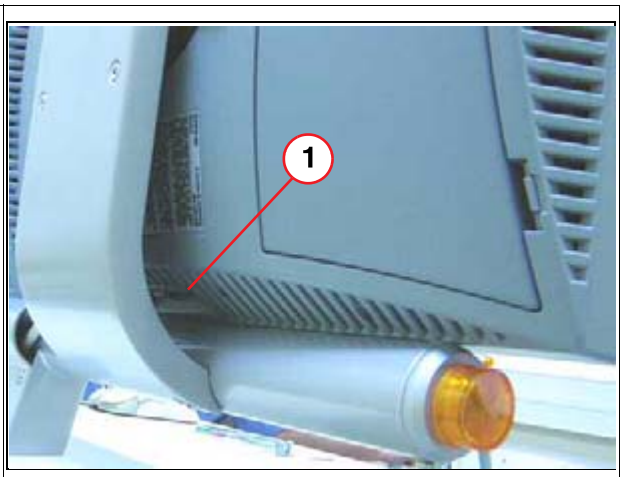

Fig. 2: 18" B/W TFT Monitor MVGD 1318 P
Pos. 1 Control Wheel

- Use the OSD menu for any necessary adjustments.
  - Selecting the OSD main menu: To open the menu use the "Control Wheel", see (General Remark Regarding Use of the OSD Menu / p. 9).
    Turn (don't press) the control wheel. The OSD main menu is displayed in the left upper corner.
  - Use the control wheel to highlight a menu.
    Press the control wheel to select the menu.
  - Select "Exit" to exit the current mask or the OSD menu.
- If you have made changes to the OSD you will need to select "Exit => Exit ..." to go to the "Save Changes" window.
  Select "Yes" and press the control wheel to accept the changes.
- Switching on/off:
  - Open the OSD (by pressing the control wheel)
  - Selecting the menu:

  - Switch off (stand-by) by selecting the stand-by menu (press the control wheel).

OSD Menu

OSD Menu	Autoset	Full Autoset	see (System-related Adjustments / p. 15)
		Automatic Geometry	n.a.
		Automatic Phase	n.a.
		Automatic Gain	n.a.
		EXIT	Exit the menu
	Video Contrast	Adjust contrast (signal restriction)	see (System-related Adjustments / p. 15)
	Video Brightness	Adjust brightness	see (System-related Adjustments / p. 15)
	Luminance	Adjust maximum contrast (Backlight).	see (System-related Adjustments / p. 15)
	Adjustments	Geometry	Adjust geometry; only required if size/position is incorrect.
		Phase => Frequency	see (System-related Adjustments / p. 15)
		Man Phase adj	see (System-related Adjustments / p. 15)
	Input Selection	Selection: Auto	default
	Settings	Power LED / DPMS	default
		Ambient Light Compensation	OFF see (System-related Adjustments / p. 15)
	Preset	Gamma in relation to input signal	default
	Infomation	TFT monitor data	SW / operating hours...
	EXIT	Exit OSD menu	

Connections

Inputs:

- **Pos 1:**
  Power line connection
- **Pos 2:**
  BNC inputs (B-signal + Synch only)
- **Pos 3:**
  Analog input via D-Sub socket (15pol).
- **Pos 4:**
  Digital input via DVI I socket
- **Pos 5:**
  Control Wheel
  - Activate and use the OSD menu
  - Switch the monitor on/off (stand-by mode).

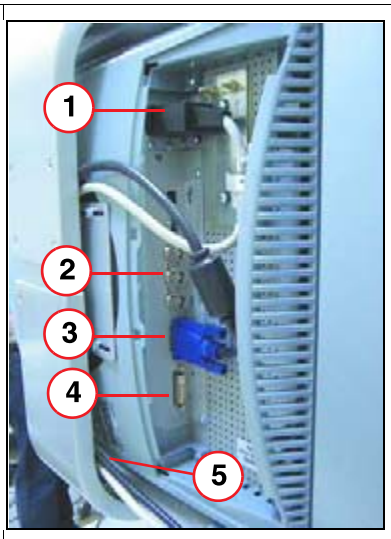

Fig. 3: 18" B/W Monitor (MVGD 1318 P) electrical connection

Pos. 1	Power connection
Pos. 2	BNC Input (B-signal)
Pos. 3	Analog Input (D-Sub 15 Pol)
Pos. 4	DVI I Input (digital input)
Pos. 5	Control Wheel for OSD

Troubleshooting

- **General:**

  Every defective display must be replaced completely.

  Fuses:

  If a fuse is defective, the display must be replaced. A fuse responds only if there is an error (in the display). Because of this, replacing a fuse is not reasonable.

- **Troubleshooting:**

NOTE

- **If the monitor trolley is used, 2 TFT monitors are always used. For troubleshooting purposes you can switch the TFT monitor controls (e.g. by switching connectors at the graphic adapter output).**
- **Prior to replacing one of the TFT monitors, you should always reset the values to the manufacturer settings and perform an auto adjustment.**

Malfunction	Possible Cause	Solution
Monitor displays no image, power LED is off.	Power cable not plugged in or line power missing.	1. Make sure line power is present. 2. Switch off the TFT monitor, wait several minutes, switch it back on. 3. Replace the TFT monitor.
Monitor displays no image, yellow LED blinking.	TFT monitor is switched off (power switch is on).	1. Switch on the TFT monitor (front button).
Monitor displays no image, power LED is "yellow".	Standby mode.	1. Make sure that a video signal is present. 2. Replace the TFT monitor.
Unclear image, defects in vertical lines	Clock and/or phase incorrectly set. Disturbances in the video signal.	1. Adjust clock / phase (System-related Adjustments / p. 15) (only possible with analog control). 2. Video signal is free of disturbances. 3. Replace the TFT monitor.

Malfunction	Possible Cause	Solution
Other malfunctions (sporadic)	Plug-in connection(s) loose.	1. Make sure that there is not a “control problem” (line power/video). 2. Replace the TFT monitor.
Can the required contrast no longer be achieved?	Analog: Video signal is too low.	1. Check the video signal (at least 600mV$_{BA}$). 2. Perform B/C adjustment according to (System-related Adjustments / p. 15). 3. Replace the TFT monitor.
White / black image dots are visible.	Each panel may show "pixel defects". However, pixel specification according to (Technical Data / p. 5) must be observed.	If the pixel specifications are maintained, the pixel defect must be accepted. If there are more error locations than specified, replace the TFT monitor.

Monitor Trolley

- Any connection cables (underneath the right cover) must be removed, see Pos 2.
- The TFT monitor is attached to the monitor trolley with 4 screws (see Pos 1).

  Caution: When removing the 4 screws, the TFT monitor may tilt forward!
- To install the replacement monitor follow the steps in reverse order.
- Perform adjustments in accordance with (System-related Adjustments / p. 15).

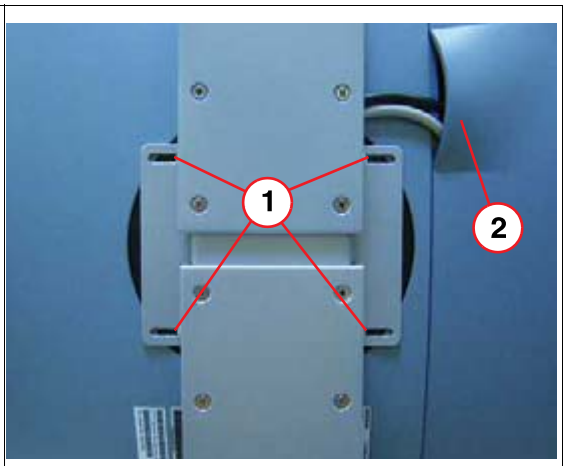

Fig. 4: 18" B/W Monitor (MVGD 1318 P) mounting on Monitor Trolley

Pos. 4 screws for mechanical connection

Pos. electrical connection

General Information

NOTE

- **The TFT monitor must be switched on 20 minutes prior to beginning the adjustments!**
- **Any adjustments must be performed at the "original" installation location (e.g. monitor trolley).**
- **Adjustments are performed from the OSD menu.**

  To select the OSD menu, see (General Remark Regarding Use of the OSD Menu / p. 9) .

  Select the OSD menu by turning (not pressing) the control wheel.

SP Range => ARCADIS Systems

Auto Adjust / General settings

Performing Auto Adjust:

- Auto Adjust must be performed using a predefined test image.

  To select the test image:

  - Service => Utilities => parameters => Explorer (enter).
  - Select C: => My Computers => Testimages => TFT Autoconfiguration.
- OSD menu => Autoset => Full Autoset => Select by pressing the control wheel.
- To complete Auto Adjust correctly, "Done" must be displayed.

  If an error message is displayed, you must fix the error (e.g. control error), and repeat Auto Adjust if necessary.

Ambient light sensor:

- OSD menu => Settings => Ambient Light Compensation
  - The ambient light sensor must be switched off (inactive).

    Toggle selection (active/inactive) by pressing the control wheel. The letter "**x**" (not selected) must be displayed
- Continue with (Checking or Adjusting the Phase / Frequency / p. 16).

Checking or Adjusting the Phase / Frequency

NOTE

An adjustment is only required if the image seems "unclear".

Usually the Phase / Frequency adjustment in Auto Adjust is performed correctly.

The SMPTE test image is used for adjustment. See the following description.

If no adjustment is required or when adjustment is completed, proceed with (Adjusting brightness and contrast with the SMfit Spotmeter / p. 17)

Adjustment using SMPTE test image

- The adjustment must be performed using a predefined test image.

  To select the test image:

  - Service => Utilities => parameters => Explorer (enter).
  - Under C: select => My Computers => Testimages => TFT Autoconfiguration.

- The 5 high-frequency line groups (Pos. 1) must be equally well visible!

  No lines or distortion may be visible.

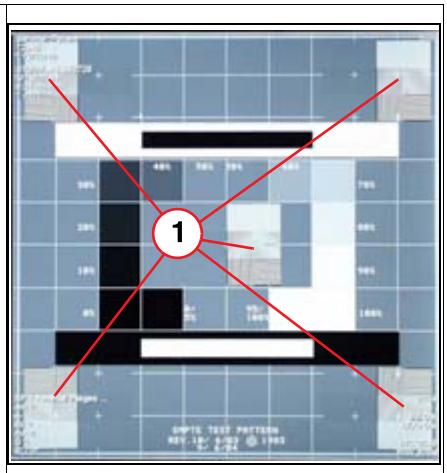

Fig. 5: SMPTE test pattern
Pos. 1 Resolution bars

Adjusting Phase / Frequency (perform only if required).

- **OSD menu => Adjustments => Phase => Frequency**

  Adjust the image width so that the image content fills the entire panel screen and no content is cut off.

- **OSD menu => Adjustments => Phase => Man Phase adj**

  Adjust the phase so that no horizontal lines are visible in the line groups.

Adjusting brightness and contrast with the SMfit Spotmeter

- **Select the black-and-white test image.**

  The service test images (test patient) must be downloaded.

  Open and log onto Syngo service. When this is done, the test patient will become visible in the browser.

  Open the test patient => open the black-and-white test image.

Adjusting brightness and contrast with the SMfit Spotmeter

- **OSD menu => Luminance**

  Set the 100% measuring field to **410 cd/m^2** +20/-60 cd/m^2.

NOTE

350 cd/m^2 should result as the lower limit value.

With dual monitor operation, the difference between the two TFT monitors should be a maximum of $^+$/- 10 cd/m^2.

If the value is lower than 350 cd/m^2, the monitor must be replaced.

- **OSD menu => Video Brightness => Max Brightness adj**

  Set the 0% measuring field to **0.9 cd/m^2** $^+$/-0.1 cd/m^2.

- **OSD menu => Video Contrast => Man Contrast adj**

  Adjust the values so that the 95% field is visible in the 100% field.
- Check: All steps in the test pattern (SMPTE), including the 5% and 95% fields must be detectable.
- To save settings:

  Select "Exit" to get to the "Save Changes" screen; select "Yes" to exit the menu.

SP Range Siremobil Compact / L, Siremobil ISO-C; Powermobil

General Information

The TFT monitor can operate with up to 3 different video standards.

Each video standard must be adjusted from the TFT monitor.

- Default (monitor trolley connected to C-arm).

  Camera synchronization.
- Stand-alone (monitor trolley not connected to C-arm).

  Internal memoskop synchronization.
- 3D Reconstruction (if present => optional).

  3 D PC supplies video signal.

NOTE

- **Each video standard that is used must be checked.**
- **Adjustments are only necessary if deviations are detected.**

  Procedure: Perform a visual inspection in accordance with (Check / p. 20) if deviations were detected. Perform adjustments in accordance with (Manual Settings / p. 20).

Selecting the different standards

- Memoskop standard:

  Display the Memoskop SMPTE test image on both monitors with LUT 1 (Technical Setup).
- Stand-alone operation:

  Disconnect central unit from monitor trolley; do not plug in the monitor cable (X10 connector) (internal memoskop synchronization).
- 3 D-PC

  If the 3D reconstruction option is available, perform a check **for monitor B only**.

  3D SW is loaded, 3D mode has been activated with <Ctrl>+<D>, and the Syngo interface (3D task card) is visible.

  Select "**Options => Local Service**".

  Select menu item "**Utilities**".

  Select "**Source**" => "**Escape to OS**" and, if necessary, select ‘Command:‘"**NT Command Interpreter**".

  Insert the "HTML test images VA00A" (Part No. 75 58 567 J1052) disk and start it with the **<a:\main.htm>** default option in the "parameter" field.

  Select "**Aspia Testimage**" and check/adjust the settings using this test image.

Check

- **Visual inspection:**

  Image position and aspect ratio are displayed correctly. The displayed SMPTE test image is neither cut off nor too small.

  The fine vertikal and horizontal lines are visible in the centre of the SMPTE test image. Gray scales are displayed without shading and the image does not contain artefacts or moire patterns.

  The gray-scale values 5% and 95% must be discernible.

  Should deviations occur, perform adjustments in accordance with (Manual Settings / p. 20).

- Check monitor brightness:

  OSD menu => Settings => Ambient Light Compensation

  => deactivate (**x**).

  0% field => 0.9 cd/m^2 +/- 01 cd/m ^{2}.

  100% field => 410 cd/m^2 + +20/-60 cd/m ^{2}

  The 5% and 95% fields must be visible.

  If no adjustment is necessary, reactivate the ambient light sensor:

  OSD menu => Settings => Ambient Light Compensation

  => activate (**v**).

Manual Settings

- **Autoset**

  The monitors are supplied with factory settings. If automatic detection shows unexpected results, perform autoset. Test images must be loaded before running autoset.

  Display the memoskop SMPTE test image on both monitors with LUT 1 (Technical Setup). Perform "Full Autoset" for each monitor (the monitor adjusts to framerate and resolution).

  OSD menu => Autoset => Full Autoset => Select by pressing the control wheel.

  To complete Auto Adjust correctly, "**Done**" must be displayed.

  If an error message is displayed, you must first fix the error (e.g. control error).

- **Manual Settings**

  - **Adjusting position.**
    OSD menu => Adjustments => Geometry

  - **Phase / Frequency**.

NOTE

An adjustment is only required if the image seems "unclear".

Usually the Phase / Frequency adjustment in Auto Adjust is performed correctly.

The SMPTE test image is used for adjustment. See the following description.

- The 5 high-frequency line groups (Pos. 1) must be equally well visible!

  No lines or distortion may be visible.

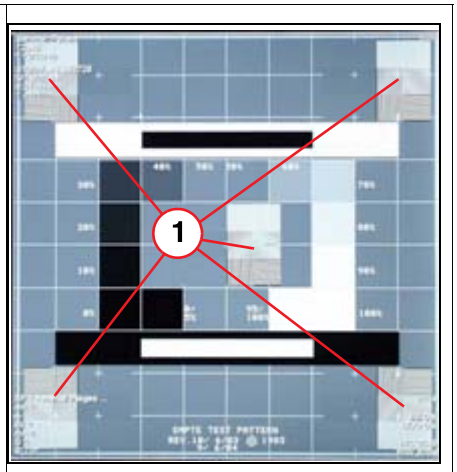

Fig. 6: SMPTE test pattern
Pos. 1 Resolution bars

- Adjusting Phase / Frequency (perform only if required).
- **OSD menu => Adjustments => Phase => Frequency**

  Adjust the image width so that the image content fills the entire panel screen and no content is cut off.
- **OSD menu => Adjustments => Man Phase adj**

  Adjust the phase so that no horizontal lines are visible in the line groups.

- **Brightness / Contrast**
  - Select the black/white test image.
  - **OSD menu => Settings => Ambient Light Compensation**

    => deactivate (**x**).
  - **OSD menu => Luminance**

    Set the 100% measuring field to **410 cd/m^2** +20/-60 cd/m^2.
  - **OSD menu => Video Brightness => Max Brightness adj**

    Set the 0% measuring field to **0.9 cd/m^2** +/- 0.1 cd/m^2.
  - **OSD menu => Video Contrast => Man Contrast adj**

    Adjust the values so that the 95% field is visible in the 100% field.
  - Check: All steps in the test pattern (SMPTE), including the 5% and 95% fields must be detectable.
  - **OSD menu => Settings => Ambient Light Compensation**

    => activate (**v**).

- **Dim the ambient light sensor** (cover):

- Dimming the ambient light sensor must result in the following values:
  0% field => 0.5 cd/m^2 +/- 0.2 cd/m^2.
  100% field => 200 cd/m^2 +/- 30 cd/m^2.
- To save settings:
  Select "Exit" to display the "Save Changes" mask, and select "Yes" to exit the menu.

Chapter 4:

"ARCADIS Varic" changed to "ARCADIS Systems".